INVESTIGATING THE FASCIOLA GIGANTICA EGGS IN GALL BLADDER OF CATTLE IN IJEBU-IGBO SOUTHWESTERN, NIGERIA

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ABSTRACT

The Study was carried out to investigate the Fasciola gigantica eggs in gall bladder of cattles slaughtered in Ijebu-Igbo abattoir, Ogun State. The gall bladder content of cattles slaughtered at the Iga Abattoir of Ijebu-Igbo was examined of eggs of Fasciola with a view to establish the presence of facioliasis in the study area and its awareness in the populace. A total of sixty-one (61) gall bladders were collected and examined from cattles of both male and female. Out of the sixty one gall bladders examined 7(11.5%) were found to contain eggs of fasciola and the colours of the gall bladders observed and the rates of fasciola gigantica infection were brown 4.9%, green 3.3% and gold 3.3%. Based on the findings of this study, the prevalence rate observed shows that the quality of liver supplied to the consumer market in the area is fit for consumption.

Keywords: *Fasciola gigantica, gall bladder, cattle, Abattoir, Ijebu-Igbo.*

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INTRODUCTION

Fasciola hepatica and F.gigantica are important animal pathogens. They live in the liver and bile ducts of sheep, cattle, and other animals causing the serious disease liver rot or fascioliasis [1]. *F. hepatica* has a worldwide distribution but predominates in temperate zones while *F. gigantica* is found on most continents, primarily in tropical regions [2]. *F.hepatica* and *F.gigantica* areparasitics flatworms of the class Trematoda, phylum Platyhelminthes that infect the liver of various mammals including humans [3]. Human infection with *F. hepatica* is more common than infection with F. *gigantica* which is less adapted to humans [1].

F. gigantica infection begins when metacercaria is drunk by cattle or humans[3]. Little damage is done by juveniles penetrating the intestinal wall and the capsule surrounding the liver but much necrosis results from migration of flukes through the liver parenchyma [3[. Estimation of fascioliasis infection in the country is nearly impossible because the cattle rearing are done mostly by nomadic herdsmen who drive cattle through vast and far distance[3].

In the tropical countries about *F. gigantica* infections in animals is derived from abattoir records of slaughtered animals particularly bovine [4]. Several abattoir surveys conducted in various parts of Ethiopia have demonstrated the presence of the fasciolosis, due to *F. hepatica and F. gigantica*, in ruminants. [5].

This study investigates *F. gigantica* eggs in gall bladder of cattles slaughtered in Iga Abattoir, Ijebu-Igbo, Ogun State, with the aim of establishing the presence of fascioliasis in the area and create awareness of the danger of the infection in the inhabitants.

Materials and Methods

Study Area

The study was carried out in Iga Abattoir of Ijebui-Igbo, a community located at the height of about 75feet above sea level in Ijebu North Local Government Area, within latitude $6^0$58’ N and longitude $4^0$0’ E of Ogun State. The rainy season occurs between March and

November and dry season between December and March. The Iga abattoir was visited once a week for collection of gall bladder samples from slaughtered cattles.

Animal Sampling

Animals used for the study were randomly selected and after slaughter, intact gall bladders were removed from the cattle with the opening tied with rubber band, they were put into properly labeled polythene bags and were transported to the laboratory for recovery and identification of eggs. The samples were collected between 7am and 9am the period when cattle are slaughtered in the area. The average number of cattle slaughtered per day at the abattoir was given an 45 (personal Communication) and a total of 61 cattles were sampled. Information regarding sex was recorded during post-mortem examination.

Identification and Counting of Eggs

10ml of the bile from each gall bladder was emptied into a centrifuge tube. The colour of the bile was noted and recorded. Thereafter, the bile was centrifuged for 10 minutes at 1500rpm. The supernatant was decanted onto glass slides and was covered with a cover slip and examined under the microscope (using the x10and x40 objective lenses) for the presence of characteristic eggs of *F. gigantica.*

Results

A total of 61 cattles' gall bladders were collected and examined for *F. gigantica* eggs. Forty two (68.9%) of the cattles were female while 19 (31.1%) were males. Out of the 61 gall bladders examined 7 (11.5%) were found to be positive for *F. gigantica* eggs.

Out of the 19 male gall bladder content examined, 3(15.8%) were found to be positive for eggs of *F. gigantica*, while 4(6.6%) of the 42 females samples examined were positive for *F. gigantica* egg. There is no significant difference in the prevalence of infection among sexes of the animals examined.

The gall bladder samples collected were sorted according to colours observed. The different colours observed and the rates of *F. gigantica* infection are brown 3(4.9%), green 2(3.3%), and gold 2(3.3%) (Table 1).

Table 1: Bile colour in relation to prevalence of *Fasciola gigantica*

Bile colour	No. examined	No. infected (%)
Brown	20	3(4.4.9%)
Green	32	2(3.3%)
Gold	9	2(3.3%)

Discussion

The result of this study indicates that the prevalence of *F. gigantica* infected is low in Iga abattoir of Ijebu-Ogbo. The prevalence rate of 11.5% as obtained in this study was lower that what was reported in studies carried by [6],[7],[8] and [4]. The differences in the findings may be as a result of differences in geographical location and seasonal variation.

[9] had suggested that a prevalence rate of up to 25% is indicative of a level of infection in which most of the animals affected would have had their livers damaged, rendering them unfit for human consumption. Therefore the prevalence rate of 11.5% recorded in the study proves that each liver supplied to the market is fit for human consumption.

It was observed that the numbers of female cattles slaughtered in the abattoir are more than males which brings about more eggs of *F. gigantica* in females than males.

[10] observed that the colour of infected bile is dark green. On the other hand Six cited by [11] reported that the bile of an infected cattles were more red or yellow coloured. The brown coloured bile obtained which had 4.9% infections thus agree with the later report. However a

firm conclusion on the status of bile colour with regards to the egg of *F. gigantica* infection cannot be reached because of the small sample size used in this study.

The study indicates that fascioliasis prevalence is very low in the study area which shows that the cattle slaughtered in Ijebu-Igbo are in good condition of health. As a result of these, the live supplied to the market and consumed by the inhabitants are free of any infection.

However, more work need to be done on fascioliasis in ruminants using large sample size and putting the size of the gall bladder and colour of the bile in relation to infection into consideration.

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